

3 R D Q U A R T E R

# 2000 Operational Report to Congress

A P R I L - J U N E 2 0 0 0

## *Overall*

- TVA and its principal power customers reached consensus on language for a potential “TVA Title” in federal legislation dealing with the restructuring of the nation’s electric utility industry. The regional consensus is supported by the Tennessee Valley Public Power Association, representing the 159 local utilities served by TVA, and the Tennessee Valley Industrial Committee, representing the large industries directly served by TVA. The language was developed in conjunction with leadership from the Tennessee Valley Authority Congressional Caucus. The provisions in the consensus provide a framework that brings the benefits of wholesale electric power competition to the region without imposing unfair competitive disadvantages on TVA that could increase rates for customers or impact the quality of service to rural areas.
- During the third quarter, TVA completed several projects to improve reliability, to prepare the power system to meet increased electricity demand during periods of extreme summer heat, and to improve air quality. Four new combustion turbines at TVA’s Johnsonville Fossil Plant and four new turbines at the Gallatin Fossil Plant are now in operation helping TVA meet its peak summer power demands. The eight units are rated at a total of 680 megawatts and use natural gas as their primary fuel.
- TVA and participating Valley utilities launched the Green Power Switch<sup>SM</sup> program to test consumer demand for green power—energy from renewable sources, such as wind and solar generation. Green Power Switch received a coveted accreditation in April from the Center for Resource Solutions in Washington, DC. Twelve distributors of TVA power are participating in the program and are actively signing up customers to support the environmentally beneficial program.

#### TVA’s Green Power Switch<sup>SM</sup>

program, an initiative to

generate power from

cleaner, renewable

resources like wind and

sunlight, is currently

being tested in 12 Valley

test markets.



# Milestones

## OPERATIONS

TVA's first Selective  
Catalytic Reduction  
system began  
operation at Paradise  
Fossil Plant. It is one  
of 13 TVA will install to  
reduce nitrogen oxide  
emissions.

- TVA is constructing eight combustion turbines in Haywood County in western Tennessee for operation by the summer of 2001. The turbines will use natural gas as their primary fuel and will provide a total of 680 megawatts of capacity during periods of peak power demand. Another eight turbines rated at a total of 680 megawatts are planned for the summer of 2002. Some of the turbines will be located in Mississippi to further improve power quality on the western side of the power system. Potential locations are under evaluation.
- TVA is installing 13 Selective Catalytic Reduction (SCR) systems at six of its fossil plants to further reduce emissions of NO<sub>x</sub> (nitrogen oxide). The facilities are projected to cost about \$750 to \$800 million. By 2005, emissions of NO<sub>x</sub> during the May 1 to September 30 ozone season will be reduced by 70 to 75 percent compared to mid-1990 levels. The first SCR facility was installed at Unit 2 at Paradise Fossil Plant and is in its initial operation stage. The second of the 13 SCR facilities is being installed on Unit 1 at Paradise.
- In preparation for high power usage this summer, Transmission/Power Supply completed seven new 161-kilovolt capacitor banks to avoid system voltage problems. New operating procedures were also implemented to improve voltage control, and three new customer delivery points were completed and placed into service.
- Transmission/Power Supply installed 612 lightning arrestors as part of the lightning mitigation project to improve service reliability. Thirty-one miles of transmission line and approximately 170 miles of optical overhead groundwire were installed on various projects.
- The Maintenance Cost Busters team from John Sevier Fossil Plant was one of the two finalists in this year's government category of the Rochester Institute of Technology/USA TODAY Quality Cup competition. The team solved a mechanical seal problem on boiler-feed pumps that will save TVA about \$1.5 million over the next 20 years. The team was recognized at a ceremony on May 5 in Washington, DC.
- This spring, employees at the John Sevier Fossil Plant demonstrated their commitment to safety by accruing 10 years of plant operations without incurring a lost-time personal injury accident. The employees have accrued more than 3.6 million hours of work since the last lost-time injury on May 17, 1990.

The 20-member Regional  
Resource Stewardship  
Council, a group that  
represents conservation,  
recreation, government,  
economic development,  
and TVA distributor  
interests, was established  
to advise the agency about  
priorities for its resource  
management programs.

- On April 6, TVA conducted its second annual Coal Suppliers' Forum in Lexington, Kentucky, to present information to TVA's major coal suppliers on various issues facing the coal industry. Chairman Craven Crowell and Director Skila Harris spoke at the forum, along with representatives from CSX, Norfolk-Southern, EPRI, and the Kentucky Governor's office.
- Browns Ferry Unit 3 set a record for TVA nuclear plants by operating non-stop for 547 days before entering a planned refueling outage on April 15.
- On May 3, 2000, Browns Ferry Unit 3 completed its cycle 9 refueling outage in 18 days, which is a world record for General Electric boiling water reactors and ranks as the second shortest refueling in U.S. history. During the outage, modifications were completed to extend the unit's operating cycle from 18 months to 24 months.
- Sequoyah Nuclear Plant earned top marks from the Nuclear Regulatory Commission (NRC) in its annual performance assessment. The NRC found the plant in compliance with federal safety standards in all 18 major areas monitored. Sequoyah was the first plant to have a public meeting to discuss the results of the newly implemented NRC performance assessment.
- Watts Bar earned top marks for the second year in a row from the NRC in its recent annual performance assessment. The NRC found the plant in compliance with federal safety standards in all 18 major areas monitored.
- A Browns Ferry employee team won the Top Industry Practice (TIP) Award from the Nuclear Energy Institute. The team received national recognition for developing and implementing a time-saving, fuel-shuffling technique that can be used at similar nuclear power plants throughout the country.

## RIVER SYSTEM OPERATIONS & ENVIRONMENT

- The Valley's rainfall deficit continued for the first six months of 2000, which made it necessary for TVA to operate the reservoir system in a water conservation mode to meet or exceed minimum recreation commitments at the tributary reservoirs. Nine of the 10 large tributary reservoirs met or exceeded the minimum summer levels.
- The Regional Resource Stewardship Council, a Federal Advisory Committee, was established to advise the TVA Board about priorities for resource management programs. The 20-member Council represents conservation, recreation, government, economic development, and TVA's distributors. Seven members were nominated by the governors of the Valley states, five by the Tennessee Valley Public Power Association and the Tennessee Industrial Council, and eight by at-large nominations. Each meeting is open for public observation and comment.

- TVA is assisting Valley state water pollution control agencies with Total Maximum Daily Load (TMDL) development and implementation. States will allocate TMDLs on a watershed basis for specific water pollutants. In preparation for TMDL development, Mississippi has contracted with TVA to conduct Integrated Pollutant Source Identification studies for impacted watersheds throughout the state.

## CUSTOMER SERVICE

VPI (Variable Price Interruptible), a new interruptible power product from TVA, offers savings for customers who can curb their power consumption during peak-demand periods.

- TVA and local utilities served by TVA implemented the new Wholesale Energy to Market pilot program and began trading on April 6. Under terms of the pilot, distributors can purchase electricity in the open market if a savings from TVA's projected cost can be found. TVA handles the transaction, and the local utility receives a bill credit reflecting the savings to TVA. Distributors may purchase up to 5 percent of their electricity usage in this way. This program allows distributors to learn about the bulk power market while remaining all-requirements customers of TVA. A total of 85 distributors are participating in the pilot, either as individuals or as part of a group.
- In June, TVA began offering a new interruptible power product called Variable Price Interruptible (VPI). VPI will replace Economy Surplus Power (ESP) and Forward Supported Power (FSP). It offers customers less volatility in hourly prices and knowledge of final prices prior to each hour as opposed to ESP and FSP, where final prices were not known until the end of the hour. VPI offers significant savings for customers who can reduce consumption during periods of peak demand.
- Another rate product implemented in June was the Firm and Fixed Price Buyback. This pilot product, provided to a number of TVA's directly served customers, allows industrial customers with firm power to sell electricity back to TVA when market prices create an advantage to do so.
- TVA conducted Emergency Load Curtailment Plan drills on May 11 and 18 with directly served customers and power distributors. The drills help TVA and customers prepare for potential power supply shortages that could occur during periods of extreme temperatures.
- TVA co-hosted the international Power Quality 2000 Conference in May with Memphis Light, Gas and Water (MLGW) and EPRI. Chairman Crowell and MLGW President and CEO, Herman Morris, opened the conference of more than 200 attendees explaining the significance of power quality to the life of their utilities. Case study presentations focused on power quality issues and solutions.

The partnership between TVA  
and East Mississippi  
Electric Power  
Association (EMEPA) in  
constructing geothermal  
systems for all family  
housing at the Meridian  
Naval Air Station will  
yield energy savings of  
more than \$100,000.

- TVA approved a total of \$4.6 million in economic development loans for business growth in the Tennessee Valley. The loans will leverage an additional \$68.8 million in capital investment for the creation of 978 jobs.
- TVA and Powell Valley Electric Cooperative signed a contract for the co-op to supply 22 megawatts of peaking capacity to TVA.
- TVA formed a team of various economic development and government organizations in June to develop a land use plan for portions of the Hartsville, Tennessee, nuclear site. The Hartsville Site Development Team will provide input on how designated portions of the site should be developed.
- TVA began implementing an Interagency Agreement with the General Services Administration (GSA) to provide energy services to the GSA within the region. The initial project is the Kefauver Federal Building in Nashville. Enhancements to the building's operational controls and lighting improvements will reduce energy consumption.
- TVA and East Mississippi Electric Power Association (EMEPA) are designing and installing geothermal heat pumps and electric water heaters in all family housing at the Meridian Naval Air Station (NAS). The improvements are being done under an agreement with EMEPA and the Meridian NAS. The work will produce annual energy savings of more than \$100,000 for the base.
- At the June 2000 EPRI Retail and Power Marketing meeting in Orlando, Florida, TVA received the End-Use Leadership Award for successfully partnering with EPRI in developing and implementing an innovative decentralized wastewater treatment and management plan at North Alabama's Flint Creek Watershed.
- TVA's successful promotion of environmentally beneficial geothermal systems continues. One example is in Sumner County, Tennessee. After achieving substantial energy savings from geothermal heat pump systems in recent school projects, the county school board directed their architects and engineers to incorporate geothermal heat pumps in the designs of all future projects. With more than 90 projects completed or in progress, TVA has one of the most successful marketing efforts in the Southeast for geothermal systems in schools, government, and institutional facilities such as prisons.
- In Concert With The Environment, a program that teaches middle school and junior high students how personal energy use impacts the environment, reached a milestone of over 18,000 energy surveys completed to date. More than 5,000 surveys were completed during this quarter. The program, which started as a pilot in 1997 with seven power distributors, now has 48 power distributors enrolled.

The "Lake Watch" program  
organized by TVA Police  
at Watts Bar Lake  
encourages property  
owners and citizens to  
observe and report  
criminal or unsafe  
activity.

## FINANCIAL

- In April, TVA recognized the top three universities for their investment portfolio performance for the first full year of competition in the Investment Challenge Program. Tennessee Technological University received the top award with a 153 percent return; Western Kentucky was second with 60 percent; and the University of Tennessee at Martin was third with 51 percent. Collectively, the 19 universities had a 36-percent return. Additionally, 13 of the 19 universities beat the S&P 500, a measure by which TVA gauges its own investment experts.
- The 1999 TVA Retirement System Annual Report won an Award of Distinction in the Communicator Awards' 2000 Print & Electronic Media competition. This international competition recognizes outstanding work in the communications field. The competition drew more than 2,500 entries.

## OTHER

- TVA completed major upgrades to its data network infrastructure that allow information to be transmitted more quickly between metropolitan areas and within TVA offices. This upgrade also allows TVA to resolve network problems faster.
- The Office of the General Counsel assisted Fossil Power Fuel Supply & Engineering Services in negotiating a contract that allows Norfolk Southern Railway Company (NSR) to operate and maintain TVA's industrial lead track to Kingston Fossil Plant. The arrangement supports operation of Kingston's new rapid coal unloader.
- TVA Police and TVA Communications conducted a series of educational events at key locations to increase water safety awareness during the summer recreation season. The Tennessee Wildlife Resources Agency and local law enforcement agencies also participated. Courtesy boat inspections were conducted on request and boating safety pamphlets were distributed.
- TVA Police organized a "Lake Watch" program at Watts Bar Lake. The program, which is similar to Neighborhood Watch, encourages property owners and citizens to observe and report criminal or unsafe activity.
- TVA Police, the U.S. Attorney's Environmental Crimes Joint Task Force, and the TVA Clinch-Powell Watershed Team launched a Clean Marina Initiative at Norris Reservoir in partnership with a private marina owner. The pilot program is designed to reduce the discharge of sewage from large recreational boats. The marina owner reports that 100 percent of his customers are pumping their waste to the marina's pump-out station. The program has prevented the discharge of more than 11,000 gallons of treated waste into the reservoir. The program is being expanded to include other marina owners.

**The Environmental Protection**

**Agency and the**

**Department of Energy**

**awarded TVA's**

**Chattanooga Office**

**Complex (COC) an**

**Energy Star Building**

**Label award.**

- Two new Internet domain names were registered by TVA: "tvapower.com" and "tennesseevalleyauthority.com."
- TVA solicited and received comments from a variety of stakeholder groups on a draft of its revised Government Performance and Results Act (GPRA) Strategic Plan.
- TVA's Chattanooga Office Complex (COC) received an Energy Star Building Label award from the Environmental Protection Agency and the Department of Energy for its performance in energy reduction, operation and maintenance, and environmental programs and activities.
- In May, the TVA Purchasing Card program was recognized again as best-in-class at the 3rd Annual Best Practices in Procurement Card Management Conference. An annual rebate from the banking supplier essentially covers the cost of the program, which streamlines the supply chain management process.
- TVA University received a "best practice" award from the American Productivity and Quality Center for its assessment and evaluation of education and training. The university, which is TVA's corporate learning system, also was honored by the American Society for Training and Development for its innovative model for training supervisors in human resource topics using long- distance learning technology.